Thinopyrum elongatum Disomic Chromosome Addition Lines in Bread Wheat and Progress in Durum Wheat. (C01-mujeebkazi115639-Poster)

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Abstract:

Thinopyrum elongatum (2n=2x=14, EE) syn. Lophopyron elongatum, Agropyron elongatum is a grass with tolerance to salinity and resistance to Fusarium head scab; two constraints that limit durum and bread wheat production. The classical strategy of utilizing the alien diversity is to obtain an intergeneric hybrid, its amphiploid or backcross I derivative and by further backcrossing, develop the individual alien chromosome disomic addition lines (1E to 7E) from which desired trait introgressions are engineered. Using conventional and molecular cytology the complete addition set of Th. elongatum chromosome additions has been developed in the spring bread and durum wheat cultivars. In both cases monosomic or multiple monosomic alien chromosome additions were crossed with maize to produce n=3x=21 or n=2x=14 polyhaploids plus randomly segregating alien addition chromosomes from which upon doubling each unique monosomic addition, homozygous disomic products was obtained. Giemsa C-banding was the validity test of each addition line complemented by FISH. The homoeology of the addition lines has yet to be established.

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